/13 cont./

824 leaves are neatly piled up on top of one another. Then he pulls out the three poles on one side and rolls up the leaves, along with the three liana strips on which they are lying, like a carpet. The ends of the lianas are then pulled together securely and one [482] stuck into the other. A carrying-strap of embira is wrapped around the ball, whereupon the Indian carries the heavy 60-70 kilogram load with his head or chest, in the latter case with the carrying-strap running over the chest and the two upper arms, 30 to 40 minutes or more through the pathless forest to his maloka. [481] The pace which the Indians strike up in doing this is so swift that I, without a load, always had difficulty following them.

824 285 Having arrived at the dwelling, on the same day or the following day, the leaves are worked up into rectangular mats which are to serve as roof covering, at which the women help. In this technique the efficiency and the inventiveness of the Indian are impressive.

Over a stalk of the paxiúba palm (Iriartea exorrhiza Mart.) 60-100 ubim leaves are laid next to one another with the underside on top, and, to be sure, in such a way that only the end of the leaf lies above the paxiúba stem, while the long stem of the ubim leaf projects beyond it. Each ubim leaf, moreover, consists of three to four V-shaped sides. From the right side there is now begun the fitting of the leaves together into a firm structure. The lower part of the right V-shaped side is now folded under. Then the long ubim stem is bent, wrapped around the paxiúba stem, led upward to the right of the leaf, and then laid over the leaf toward the left. The same procedure is followed with the adjacent leaves. The stem end of the last leaf on the left is fastened with a piece of liana wound around the paxiúba stem, or simply by bending this stem to the right, by way of exception, and shoving it under the other leaves. With this a pano (rectangular mat) is completed, generally with a length of five to eight 342 meters and a width of half a meter. Depending on the length 824 of the windscreen, 80-100 or more of these panos /14/ are now laid on the roof framework over one another tile-fashion at intervals of 30-50 centimeters and fastened with lianas.

/49 cont./

8. Basketry

285 462 [824] Basketry is carried on primarily by the women. The only exceptions are temporary carrying-baskets of natural palm leaves, which are made by both sexes, and carrying-baskets of curauá, the making of which falls to the men.

[824] If the Indians need a temporary carrying-basket in the forest, they simply place two pinnate palm leaves close together on the ground (most often they use for this the leaves of the patauá, açai, and ubim palm) and interweave the inner sides to make a firm surface. Then both leaves are bent over at the upper end, which makes the bottom, and on the outside a braidlike rim is plaited 482 (Ill. 32). By means of a carrying-band of embira, very heavy loads can then be carried with this basket, called pakokêhe, above all fruits, but also pieces of large game, for example, tapir, which the hunter alone cannot carry into the maloka. Men always slip the carrying-band over upper arms and chest, while women prefer the forehead for this.

285 171 Similar baskets are found among the Karaiben /Carib/ and Aruak /Arawak/ tribes of Guiana (269), as well as among the

269. Roth, 1924, p. 379 and Pl. 124.

Urubu in the Brazilian state of Maranhão (270). Similar specimens,

270. Lopes, 1932, p. 147 and Fig. 6.

however, are used by the Nahukuá /Nahuqua/ and Bakaïrí /Bacairi/ in the Xingú source region (271), to mention only a few more

271. Max Schmidt, 1904, pp. 500 ff. and Figs. 13 and 14.

examples, which, however, could be augmented at will. It is seen from this that many tribes were in a position to make carrying devices out of natural palm leaves.

Surára
Pakidái
Shiriana

/49 cont./

285 462 [824] More highly developed is the carrying basket which consists of bast strips of the curauá plant (Ananas sativus Sch.) -- uaramá. It is made by the male members of the tribe in the following manner: Two groups of plaiting strips are laid on top of each other in different directions and then interwoven with a third group of strips running in still another direction (Ill. 33).

285 174 [971] This, according to Max Schmidt's classification, is the third principal type of South American plaiting (272) (273). This type

272. Max Schmidt, 1904, pp. 490 ff.

273. Max Schmidt, 1905, pp. 330 ff.

of basket (274), which is very widespread in South America, is

274. Abundant comparative material is to be found in Roth (Roth, 1924, pp. 321 ff. and Pl. 100 B and 102) and Mason (Mason, 1904, pp. 529 ff. and Pl. 240 (1, 2).

also regarded as very old, but today is seldom used any more by the Surára and Pakidái. Nothing concerning its origin is known any more among the tribes named. An autochthonous development [179] is possible, but an adoption from Karaiben or Aruak tribes, who use similar baskets, is more probable. The same basket is [184] likewise confirmed for the related Karimé (275).

275. Salathé, 1931/32, p. 302 and Figs. 9 and 10.

285 824 192 The one most frequently used at present is the women's large carrying-basket made of liana strips (276) -- wuëka --, which "has the shape of a somewhat elongated semicircle" (Ill. 34).

276. Each individual liana is split with the teeth into several flat strips. (Cf. also p. 101).

/49 cont./

which "has the shape of a somewhat elongated semicircle" (Ill. 34). This description comes from Koch-Grünberg, and, to be sure, he is referring to the completely identical women's carrying-baskets of the Xiriâna (Schirianá). "In this type of plaiting," says the investigator named, "which is probably peculiar to the Schirianá, the vertical strips running out radially from the common center of the bottom are wound spirally with two finer horizontal strips. A few stronger inner rings to which /50/ the vertical strips are lashed with lianas give the basket shape and support. The ends of the vertical strips are secured under a special overcasting of the rim (Pl. 23, 1). By means of tree-bast strips, to which the bark still adheres, the basket is carried by the forehead on the back" (277). The same technique is used by the

277. Koch-Grünberg, 1923a, pp. 307/08.

Surára and Pakidái, and the initial plaiting of a carrying-basket (Fig. 21) shows this particularly clearly (Ill. 35). This is /Fig. 21 appears here/ /51/ the type of plaiting which Max Schmidt designates as "double-thread plaiting," the second principal type of South American plaiting (278) (279).

278. Max Schmidt, 1904, pp. 490 ff.

279. Max Schmidt, 1905, pp. 330 ff.

By means of an external feature one can, however, easily distinguish the women's carrying-baskets of the Xiriâna from those of the Surára and Pakidái. In the case of the former, the carrying band is fastened only at the edge (280), while the latter

280. Koch-Grünberg, 1923a, Pl. 23, 1.

always wind it around the bottom, then lead it through two twisted liana-loops on the lower third as well as on the upper edge, and then knot it on one side (Ill. 34). This gives the wearers a better

2: Becher--109 E-5 (1955-1956) 1960 SQ18 Yanoama SQ18
Surára
Pakidái
Shiriana

/51 cont./

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[482]
[438]

hold, which makes it possible for them to transport substantially heavier loads without chafing themselves. This slight improve-

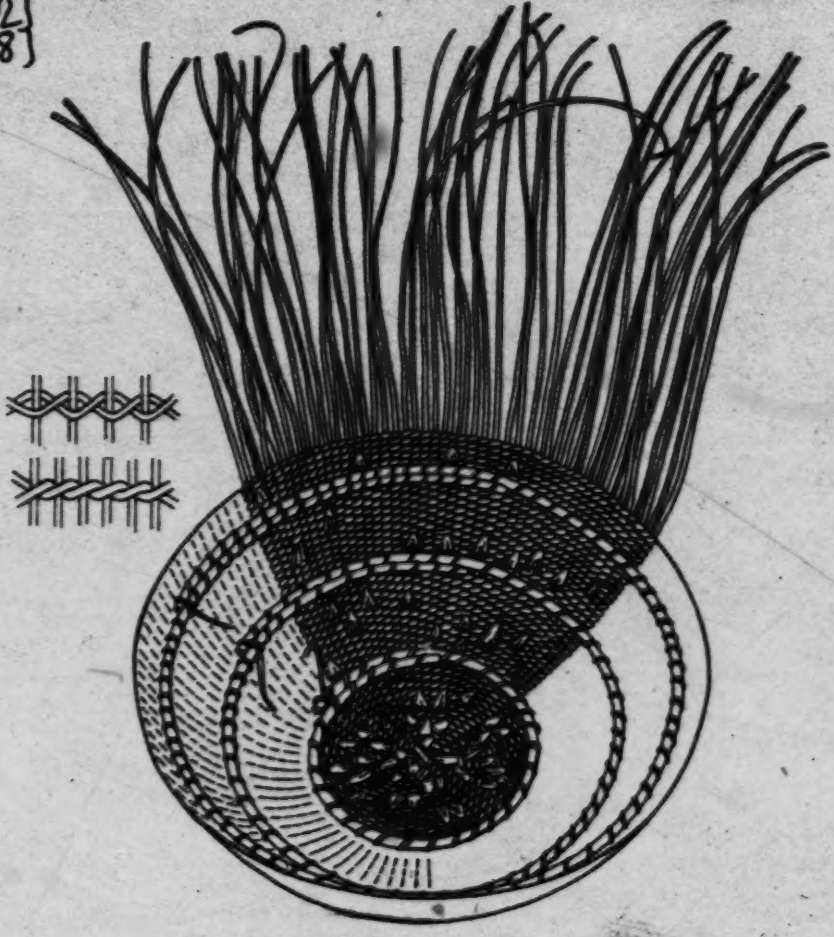

Fig. 21. Initial plaiting of a women's carrying-basket.

ment could have been developed by the Surára and Pakidái women, but the baskets themselves, as well as the method of making them, according to the statements of my informants, represent imported goods from the Xiriána.

The same applies for the round, flat basket-bowls made by the same technique, which are found in various sizes among the Xiriána (281) as well as among the Surára and Pakidái and

/51 cont./

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281. Koch-Grünberg, 1923a, p. 308.

which serve for storing manioc cakes and fruits. Among the last-named Indians I also saw women's carrying-baskets in miniature form, which are meant for small girls, and some with covers -- [531] weë. All the objects named are usually painted with serpentine [386] lines, for which urucú is used. Finally, it should be mentioned [461] that the women, like best to lie comfortably in their hammocks while making such baskets and basket-bowls.

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The women's large carrying-baskets and basket-bowls described above are likewise used by the Waiká, and both Zerries and Schuster point out that in the manufacture the twining plaiting-technique is used (282) (283) (284). Similar basket-bowls

282. Zerries, 1956a, p. 184.

283. Zerries, 1955b, p. 663, Ill. 2.

284. Schuster, 1958b, p. 17.

are also documented for the Karimé (285), and small hanging

285. Salathé, 1931/32, p. 302 and Fig. 11.

baskets and basket-winnowers from Aruak and Tukano /Tucano/ tribes on the upper Rio Negro, as well as from the Makú /Macu/, exhibit further parallels, which differ only slightly in the external form (286).

286. Koch-Grüngerg, 1910a, pp. 220 ff. and Ills. 142e, 143a, 144.

/51 cont./

285 [192] [824] Then there are small baskets with handles and square bottoms -- yorohíkes -- (Ill. 36), in which women keep their ornaments, arm, leg, and chest cords, the spindle and balls of cotton. To make these, split lianas are again used. The technique employed is very primitive, for the plaiting strip is merely led [184] alternately over and under a plaiting strand (287). The shape of

287. Max Schmidt includes this technique in the first principal group of South American plaiting (Max Schmidt, 1904, pp. 492/93).

these little baskets seems to be peculiar to the Surára and Pakidái, for in the literature I have not yet found a corresponding description with reference to other tribes.

285 824 372 Simple plaited fire-fans -- xuhéma -- are made of the leaf-stalk sheaths of the tucumã palm (Astrocaryum sp.). They have an elongated shape, and the ends of the strips are tied together to form a handle (Fig. 22).

285 372 174 17 Similar fans, but more evenly worked, were found by Koch-Grünberg among the Makiritare, Yekuaná /Yecuana/, and Guinaú in the catchment area of the upper Orinoco (288), from which one

288. Koch-Grünberg, 1923a, p. 345 and Pl. 24, 6.

might conclude that this object reached the Surára and Pakidái from here, probably by way of the Xiriána. The reverse route might also be possible, however, if only because most of the Karaiben and Aruak tribes of Guiana use fire-fans with a handle set crosswise (289).

289. Roth, 1924, pp. 291 ff., Pl. 78, 79, and Fig. 91.

Surára
Pakidái
Shiriana

252 /51 cont./
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285 The tube-press -- pokunho -- has only recently gained entry
[192] among the Surára and Pakidái. Among the former I discovered only three specimens, among the latter five, all of which /52/ /Fig. 22 appears here/ were made of bast strips of the curuuá plant
[438] (Ananas sativus Sch.) and were relatively small (length, 1.10-1.20 meters; diameter, 3-4 centimeters). They were in the possession of a few families who had obtained them by barter
[192] from the Xiriána. Heretofore the manioc pulp has been pressed out with the hand by means of small, square plaitings -- yorohí -- (290).

290. The name is practically identical with the one for the small basket with handle -- yorohikes -- and the plaiting technique is the same throughout.

[178] Even today this method is more common than the one with the tube-press, but the latter is gradually beginning to come in.
[426] Families who do not as yet own a tube-press sometimes borrow one, for up to now it has been made neither by the Surára nor the
114 Pakidái. The above reference to the fact that the tube-press is
252 supposed to represent an import article from the Xiriána is
174 significant, however. That is, when Koch-Grünberg stayed with
285 a Xiriána group in Motomotó, he did not find any here, but only small basket-winnowers, in which the manioc pulp was squeezed
[177] with the hand (291). Hence it is to be assumed that these Indians,

291. Koch-Grünberg, 1923a, p. 308.

too, have not known the tube-press for very long; presumably they took it over from the Karaiben. /Fig. 23 appears here./

Suráva
Pakidái

372
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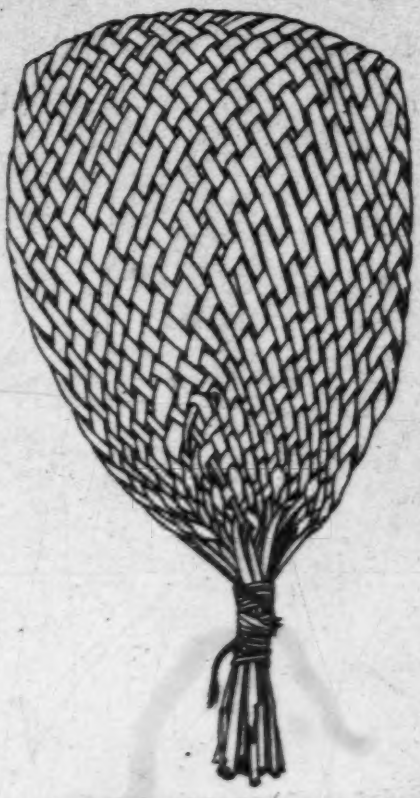

Fig. 22. Plaited fire-fan.

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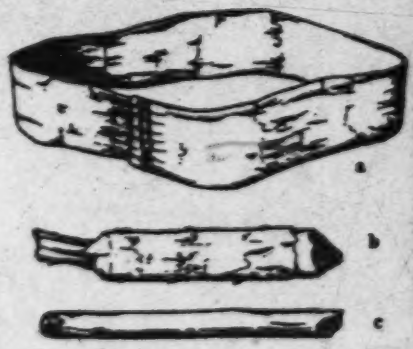

Fig. 23a. Band for carrying children, made of embira tree-bast.

Fig. 23b. Part of an embira trunk with beaten tree-bast which has already been partly pulled off.

Fig. 23c. Bast-beater made of embira wood.

2: Becher--276 E-5 (1955-1956) 1960 SQ18 Yanoama SQ18

Surára
Pakidái

/11/

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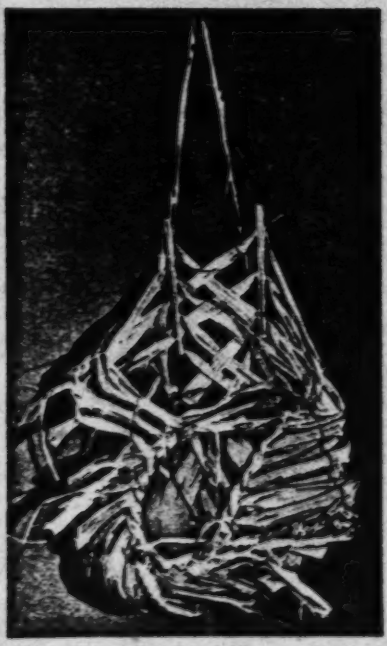
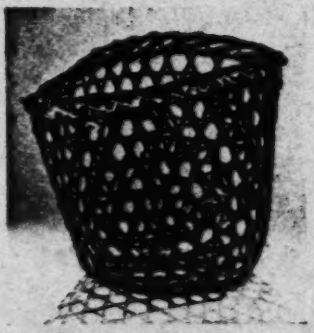


Ill. 32. Temporary carrying basket of palm leaves



Ill. 33. Carrying basket of bast strips from the curáuá plant

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Ill. 34. Woman's large carrying-basket made of liana strips

Ill. 35. Surára woman plaiting a woman's large carrying-basket

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Ill. 36. Small basket with handle, made of liana strips

/202 cont./

372 They make fire by the rotation method, and the sticks which they use in this process are carried with them tied to the quiver (cf. Barker, 1953, p. 462, Fig. 6). If the camp is situated at a relatively short distance, the women carry a piece of lighted firewood upon which they blow on the way so that it will not go out. Fire is a source of light and heat in the rancherías, and they keep it burning all night long to protect themselves from the cold, from evil spirits, and from dangerous animals.

283 The Sanemá women spin cotton by means of a spindle which they roll on the thigh. The cord is twisted with three threads.

286 301 294 352 They do not weave and use the thread only to make ornaments, guayucos /loincloths/, and sometimes hammocks /hamacas/ and güenepes. The baskets that they manufacture are well made and are very useful for carrying the products of the conuco, firewood, and sometimes large pots made of baked clay; the method that they employ to make baskets (twining) is primitive, common to the marginal peoples of South America. The Sanemá make pottery vessels, conical in shape, but their method is very primitive. The most common container is the gourd.

285 [323]

323 415

412 [237] A cutting implement (gouging tool) which is widely used is the knife made with agouti teeth. It is used exclusively by the men and is made by attaching an incisor of the rodent to a small stick 10 centimeters long by means of gum and a fine plant-fiber. The men carry it in the quiver, under their arm ornament, or, as we saw on the upper Ventuari, in the opening of the ear lobe. With this instrument they make arrows; it is used to mount the point or to open the lower end of the shaft where the peg, provided with a groove for the bowstring, is inserted. The groove is also made with the tooth knife. Becher (1960, p. 54) reports that jealous Surará and Pakidai men sometimes use it to wound their wives, and an informant from the Erebato told us that they also used it to gouge out the eyes of enemy men who had been captured and identified as murderers of a member of the group. The Indian said that once they have gouged out the eyes they free their victims, who die a few days later in the forest. The knife is sharpened with a stone. This type of primitive knife has been found in most of the Yanoama subtribes: Waika

[593] [727]

[84]

StLaytinse et al. D. E-5 (ca. 1980)1982 SQ18 Yanoama SQ18
Waica

In 1913, Koch-Grünberg[5] had observed that Yanoaman was different from Cariban and that it apparently represented an isolated language. While this opinion was shared by the majority of authoes who subsequently referred to the language, two American linguists have recently broken with this tradition by forwarding suggestions of possible affiliations. Greenberg[6] classified "Shirianá" as a distinct group belonging to the "*Chibchan proper*," subfamily of the "*Macro-Chibchan*" family, and Swadesh[7] established a "*Macro-Siriana*" with an internal separation of 30 mc, including Chapacura (27 mc), and Sirisana (21 mc). He later suggested (personal communication) that Waraoan should also be reckoned in "*Macro-Siriana*," which would increase the internal divergence of this microphylum to that of 72 mc. Since the latter suggestion is of major interest to the distribution of the Diego antigen, we shall return to the discussion of the same after having presented the material on the Waica blood groups.

Cultural aspects. The Yanoama are a semi-nomadic forest people who rely for their subsistence chiefly on hunting, gathering, and arboriculture. Fishing is of a very subordinate importance and only peripheral groups, such as the northern Sanemá, have adopted agriculture from neighboring tribes. Although arboriculture is of vital importance among most of the Yanoama subtribes (plantains [*Musa paradisiaca normalis*], and pupunha [*Guilielma gasipaes*]), there can be little doubt that the basic economic and cultural pattern of the Yanoama has remained essentially on a Paleo-Indian culture level of the early hunting peoples of South America.

Yanoama technology is very little developed. The Waica produce thick-walled conical cooking pots, and Yanoama women make large twined carrying baskets. Cordage, belts, and one type of hammock are made of planted cotton, but weaving and metal work of any kind is unknown. Recently, several Yanoama groups have learned how to make dugout canoes, but their crafts and paddles still lack the perfection of the same artifacts among their masters (e.g. Caribs). Very long bows and arrows are the main weapons of these Indians, but stick-clubs may antedate the former.[8]

The local groups of the Yanoama are composed of bands of several extended families with nuclear family households. Residence rules have, as yet, not clearly been established, but judging from the Sanemá of the Erebato and from the

5 Koch-Grünberg, 1913, pp. 455-458.
6 Greenberg, 1956.
7 Swadesh, 1959, p. 28.
8 Only the Waica were reported to make pottery, and the planting of cotton is very recent.

484 plantains to eat en route. Most of the time they did not even carry their hammocks, as these could be easily manufactured from bark strips in a matter of minutes.

[462] [985] Women make several kinds of baskets, including ones to carry the family possessions when the group moves. When the entire village moves, progress is slow and only a few miles are covered each day. The reason for this is that [938] [958] [955] older people and those who are sick travel very slowly, children must be carried by their parents, and food in large quantities must be transported to provision the moving group. Thus, a trip that a group of young men could easily make in one day would require two or three days if the entire village moved that distance.

415 323 The only non-portable[1] (as well as the only durable) item made by the Yąnomamö is a large, heavy, poorly fired [184] [443] clay pot. These are manufactured by only a few villages, which serve as trading centers for this industry. They are [462] [422] [562] made by men and are their property since women are too clumsy to be permitted to handle and use them and would probably break them. When a pot does break, the fragments are used as mortars for grinding drugs, small stone celts, found in the woods by the Yąnomamö, serving as pestles. The larger fragments of a broken pot are used as cooking plates in the [197] manufacture of cassave bread. Despite the fact that most of the Yąnomamö villages have not been contacted directly, the

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[1]The pots are concealed in the garden when the group moves.